

Message Text

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ACTION ERDA-07

INFO OCT-01 EUR-12 ISO-00 FEA-01 AID-05 CEA-01 CIAE-00

CIEP-02 COME-00 DODE-00 EB-07 FPC-01 H-02 INR-07

INT-05 L-03 NSAE-00 NSC-05 OMB-01 PM-04 USIA-15

SAM-01 OES-05 SP-02 SS-15 STR-04 TRSE-00 NRC-07

ACDA-10 CEQ-01 EPA-04 DOTE-00 HUD-02 NASA-02 NSF-02

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R 162109Z JAN 76

FM AMEMBASSY OTTAWA

TO SECSTATE WASHDC 8553

UNCLAS SECTION 1 OF 3 OTTAWA 0202

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TAGS: TECH, ENRG, CA

SUBJ: BACKGROUND INFORMATION OF FOREIGN ENERGY PROGRAMS

REF: STATE 301432

1. FOLLOWING REPLIES TO INQUIRIES CONTAINED REFTEL ARE PROVIDED WITH SUBJECT AND INDEX NUMBER USED IN REFTEL FOR REFERENCE AS FOLLOWS:

A. OVERALL GOVERNMENT STRUCTURE(I):

THE RESPONSIBILITY FOR FEDERAL ENERGY POLICY IN CANADA IS VESTED IN THE CABINET. ON THIS SUBJECT, THE MINISTER OF ENERGY, MINES, AND RESOURCES HAS THE PRINCIPAL ROLE. HOWEVER, FROM TIME TO TIME, OTHER MINISTERS CAN HAVE SIGNIFICANT EFFECT ON CANADIAN ENERGY POLICY, E.G., AS IT RELATES TO EXPORTS AND IMPORTS, THE MINISTER OF INDUSTRY, TRADE, AND COMMERCE; AS IT MUST BE SUPPORTED BY BUDGET FUNDS, THE PRESIDENT OF THE TREASURY BOARD; AS IT IS SUPPORTED BY FUNDAMENTAL SCIENTIFIC RESEARCH, UNCLASSIFIED

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THE MINISTER OF SCIENCE AND TECHNOLOGY TO WHOM THE

CANADIAN NATIONAL RESEARCH COUNCIL REPORTS, ETC. ONE STEP BELOW THE CABINET, WHAT HAS EVOLVED AS THE MOST POWERFUL POLICY GROUP CONCERNED WITH ENERGY R&D IS THE INTERAGENCY COMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT PRESENTLY CHAIRED BY DR. CHARLES SMITH, WHO IS ALSO SENIOR ASSISTANT DEPUTY MINISTER IN THE DEPARTMENT OF ENERGY, MINES, AND RESOURCES. VARIOUS OTHER POLICY AND STUDY GROUPS HAVE FROM TIME TO TIME ISSUED REPORTS AND DONE STUDIES FOR THE GOVERNMENT WHICH HAVE HAD AN EFFECT ON CANADA'S OVERALL GOVERNMENT ENERGY POLICY. DESERVING OF SPECIAL MENTION ARE THE NATIONAL ENERGY BOARD (WHICH IS AKIN TO THE U.S. FEDERAL POWER COMMISSION AND WHICH MUST LICENSE THE EXPORT OF OIL, NATURAL GAS AND ELECTRICITY), THE ECONOMIC COUNCIL OF CANADA, AND THE SCIENCE COUNCIL OF CANADA.

B. OVERALL ENERGY STRUCTURE (II):

THE FOLLOWING ARE THE PRIMARY SUB-UNITS WITH SIGNIFICANT ENERGY R&D RESPONSIBILITY AND/OR POLICY ANALYSIS RESPONSIBILITIES:

(1) DEPARTMENT OF ENERGY, MINES, AND RESOURCES (EMR):

A. GEOLOGICAL SURVEY OF CANADA--RESOURCE AVAILABILITY.

B. OFFICE OF THE SENIOR ADVISORS--THERE ARE SEVERAL SENIOR ADVISOR OFFICES WITHIN THE DEPARTMENT WHICH REPORT TO THE DEPUTY MINISTER OR THE SENIOR ASSISTANT DEPUTY MINISTER. THESE ARE PRINCIPALLY CONCERNED WITH RESOURCE AVAILABILITY AND TECHNICAL ASSISTANCE IN POLICY FORMULATION, BOTH DOMESTIC AND INTERNATIONAL.

C. MINES BRANCH--MINING IN ALL OF ITS PHASES, INCLUDING COAL AND OIL SANDS.

D. MINERALS RESOURCES BRANCH--PRIMARILY DATA COLLECTING AND REPORTING.

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E. SCIENCE AND TECHNOLOGY--HEADED BY AN ASSISTANT DEPUTY MINISTER RESPONSIBLE FOR THE OFFICE OF ENERGY, RESEARCH, AND DEVELOPMENT AND THE OFFICE OF ENERGY CONSERVATION.

(2) ATOMIC ENERGY OF CANADA LTD.--A CROWN CORPORATION REPORTING INDEPENDENTLY TO THE EMR MINISTER. IT IS COMPARABLE TO THE NUCLEAR ENERGY

SECTOR OF ERDA WITH PRINCIPAL R&D FACILITIES LOCATED AT CHALK RIVER, TORONTO, AND PINAWA (MANITOBA). THIS CROWN CORPORATION WITH HEAD-QUARTERS IN OTTAWA CURRENTLY SPENDS APPROXIMATELY 70 PERCENT OF CANADA'S BUDGET FOR ENERGY RESEARCH.

(3) EL DORADO NUCLEAR LT.--A CROWN CORPORATION WHICH REPORTS INDEPENDENTLY TO THE EMR MINISTER. ITS HEADQUARTERS ARE IN OTTAWA. REFINING FACILITIES ARE LOCATED AT PORT HOPE AND MINING OPERATIONS IN NORTHERN SASKATCHEWAN AND THE NORTHWEST TERRITORIES. THIS ORGANIZATION PLAYS A SIGNIFICANT ROLE IN COMPETITION WITH PRIVATE INDUSTRY IN ESTABLISHING POLICY ON URANIUM AVAILABILITY, PRICES, AND IN RESEARCH AND DEVELOPMENT ACTIVITIES.

(4) ATOMIC ENERGY CONTROL BOARD OF CANADA--REPORTS TO THE EMR MINISTER. IT ALSO ACTS AS LEAD PROGRAM AGENCY ADVISING EXTAFF ON INTERNATIONAL SAFEGUARDS AND HANDLES ALL DOMESTIC ASPECTS OF LICENSING AND REGULATING THE NUCLEAR INDUSTRY.

(5) MINISTRY OF SCIENCE AND TECHNOLOGY--IN A POSITION INDEPENDENT OF HIS ROLE AS MINISTER OF SCIENCE AND TECHNOLOGY, CHARLES (BUD) DRURY IS THE MINISTER TO WHOM THE NATIONAL RESEARCH COUNCIL OF CANADA REPORTS. THE NRC HAS A SIGNIFICANT R&D PROGRAM AT THE FEDERAL LEVEL. MOST WORK IS CONDUCTED AT THE NRC MONTREAL ROAD LABORATORIES IN OTTAWA. WORK IS UNDERWAY IN LASER FUSION, ENERGY CONSERVATION, SOLAR

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ENERGY, WIND ENERGY, AND SOME WORK IN TIDAL

ENERGY. THERE IS ALSO WORK IN SEVERAL PERIPHERALLY RELATED FIELDS.

(6) DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE:
A. DIRECTORATE OF SCIENCE AND TECHNOLOGY--RESPONSIBLE FOR FOSTERING R&D IN ENERGY AND OTHER FIELDS IN CANADIAN INDUSTRY. THE DIRECTORATE ALSO SUPPORTS TECHNICALLY THE CANADIAN TRADE COMMISSIONER SERVICE.

B. OTHER OFFICES IN THE DEPARTMENT, WHILE THEY GENERALLY DO NOT FINANCIALLY SUPPORT ENERGY R&D, MAY HAVE A STRONG VOICE IN

POLICY FORMULATION AND MONITORING POLICY
IMPLEMENTATION. FOR EXAMPLE, ALL IMPORTANT
SAFEGUARDS MEETINGS ARE ATTENDED BY A
DEPARTMENT REPRESENTATIVE.

(7) DEPARTMENT OF THE ENVIRONMENT--THIS
DEPARTMENT HAS SIGNIFICANT R&D PROGRAMS AIMED AT
MONITORING THE EFFECTS OF ENERGY PRODUCTION, USE
AND REGULATION. IT PLAYS A ROLE ANALOGOUS TO
EPA.

C. ENERGY POLICY (I-A):

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FM AMEMBASSY OTTAWA

TO SECSTATE WASHDC 8554

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EMBASSY SUBMITS FOLLOWING BRIEF SUMMARY OF
"CANADIAN BUSINESS REVIEW" (AUTUMN 1975) ARTICLE
BY GORDON M. MACNABB, DEPUTY MINISTER, DEPARTMENT OF
ENERGY, MINES AND RESOURCES:

(1) CANADIAN ENERGY SYSTEM IS MARKED BY FINITE
AND DECLINING KNOWN RESERVES OF OIL AND GAS
AND, WHILE POTENTIALLY LARGE ADDITIONS TO THE

RESOURCE BASE ARE THOUGHT TO EXIST IN CANADA, THESE INCREMENTAL RESOURCES WILL ONLY BECOME AVAILABLE AT DISCRETELY HIGHER REAL COST LEVELS.

(2) COMPARING SUPPLY AND DEMAND PROJECTIONS, IT APPEARS THAT AT CURRENT INTERNATIONAL PRICES CANADA MIGHT HOPE TO REATTAIN SELF-SUFFICIENCY IN ENERGY BY THE LATE 1980S. DURING THE NEXT TEN YEARS, HOWEVER, DEMANDS ARE EXPECTED TO EXCEED SUPPLIES EVEN WHEN CONSIDERING THE LOWEST DEMAND FORECAST. CANADA BECAME A NET UNCLASSIFIED

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OIL IMPORTER DURING 1975 AND SHORTAGES OF NATURAL GAS MAY EXIST UNTIL FRONTIER (ARCTIC) GAS BECOMES ACCESSIBLE.

(3) TO RAISE THE POSSIBILITY OF BECOMING SELF-SUFFICIENT, HOWEVER, IS TO RAISE THE QUESTION OF THE DESIRABILITY OF SELF-SUFFICIENCY. "IT IS BECOMING INCREASINGLY APPARENT THAT WE CANNOT AFFORD, AS A NATION, TO DEVELOP OUR ENERGY RESOURCES ON THE SCALE REQUIRED TO MEET RECENTLY OBSERVED GROWTH RATES IN THE FUTURE. SUCH A POLICY WOULD RESULT IN MASSIVE TRANSFERS OF REAL RESOURCES TO THE ENERGY SECTOR AND AWAY FROM THE PRODUCTION OF OTHER GOODS AND SERVICES DESIRED BY CANADIANS. IT COULD ALSO INCREASE THE DANGERS TO OUR NATURAL ENVIRONMENT. AND, AS OUR FINITE RESOURCES WERE DEPLETED AT FASTER RATES, IT WOULD MERELY POSTPONE AND MAKE MORE SUBSTANTIAL THE NECESSARY ADJUSTMENTS, CREATING SEVERE PROBLEMS FOR FUTURE GENERATIONS. THE IMPLICATIONS OF THESE CONSIDERATIONS--HEIGHTENED BY THE EVENTS OF THE PAST TWO YEARS--HAVE LED THE CANADIAN GOVERNMENT TO REASSESS THE BASIC PRINCIPLES UNDERLYING ENERGY POLICY PLANNING. THIS REASSESSMENT HAS LED TO THE REALIZATION THAT NATIONAL ENERGY POLICIES, TO BE VIABLE IN THE LONG TERM, MUST FOCUS EQUALLY ON ENERGY SUPPLIES AND ENERGY DEMANDS. WE MUST OF COURSE CONTINUE TO PURSUE POLICIES DIRECTED AT ACCELERATING THE PRODUCTION OF ENERGY FROM OUR DOMESTIC RESOURCE BASE. BUT WE MUST, AS WELL, SERIOUSLY ASSESS WHAT RATES OF GROWTH IN ENERGY CONSUMPTION APPEAR REASONABLE AND SUSTAINABLE IN THE LONGER TERM, AND WE MUST ACTIVELY PURSUE ENERGY CONSERVATION POLICIES DIRECTED AT

REDUCING GROWTH RATES TO THESE LEVELS."

D. ENERGY POLICY (I-B):

CANADA'S R&D PRIORITIES IN THE ENERGY FIELD HAVE BEEN THE SUBJECT OF PROLONGED STUDY AND AT TIMES UNCLASSIFIED

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ACRIMONIOUS INTERNAL DEBATE FOR WELL OVER 18 MONTHS. AECL HAS MANAGED TO MAINTAIN A REASONABLE PRIORITY FOR THE NUCLEAR OPTION, BUT THIS POSITION HAS BEEN BADLY BATTERED, AND AECL'S BUDGET SO SEVERELY STRAINED THAT ACTUAL CUTBACKS IN ITS PROGRAM WILL PROBABLY HAVE TO BE INITIATED DURING CALENDAR YEAR 1976. NEVERTHELESS, BECAUSE OF THE PROPORTIONATE SIZE OF THE BUDGET DEVOTED TO NUCLEAR ENERGY, IT MUST STILL BE REGARDED AS CANADA'S MAIN ENERGY R&D PRIORITY. WITHIN THE NUCLEAR FIELD THE PRINCIPAL SUB-PRIORITY REMAINS THE ADVANCED CANDU AND THE SECOND PRIORITY CANDU WITH A THORIUM CYCLE. THE THIRD PRIORITY IS NEW TECHNOLOGY FOR HEAVY WATER PRODUCTION. BEYOND THE CONVENTIONAL NUCLEAR FIELD, THERE HAS NOT BEEN A PUBLICLY RELEASED LIST OF PRIORITIES. WHAT FOLLOWS REPRESENTS THE EMBASSY'S "BEST GUESS" BASED ON NUMEROUS DISCUSSIONS WITH PARTICIPANTS AS THE INTERAGENCY COMMITTEE HAS ATTEMPTED TO PRODUCE A DOCUMENT FOR CABINET CONSIDERATION. SUBJECT TO THIS CAVEAT THEY ARE:

(1) COAL GASIFICATION AND LIQUEFACTION

(2) TECHNOLOGY FOR EVENTUAL EXPLOITATION OF CANADA'S OIL SANDS

(3) FUSION (THIS IS A VERY SMALL JOINT PROGRAM CONDUCTED BY AECL AND NRC WITH NRC HAVING THE LEAD RESPONSIBILITY. WITHIN THE FUSION AREA, CONCENTRATION IS ON MATERIALS AND LASER TECHNOLOGY.)

(4) ENERGY CONSERVATION (THIS IS ANOTHER SMALL BUT USEFUL PROGRAM, GIVEN CANADIAN CLIMATIC PROBLEMS, CLOSELY CONNECTED TO NRC WHICH IN TURN MAINTAINS CLOSE CONNECTIONS WITH NBS.)

(5) GEOTHERMAL

(6) HIGH VOLTAGE TRANSMISSION AND GRID DYNAMICS (THIS IS PLACED IN THE LAST PRIORITY POSITION UNCLASSIFIED

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BECAUSE OF THE LOWINTEREST AT THE FEDERAL LEVEL
IN THE PROBLEM. HOWEVER, GOH QUEBEC HYDRO AND
MANITOBA HYDRO ARE DEVOTING A SIGNIFICANT AMOUNT
OF HIGHLY QUALIFIED EFFORT TO THIS R&D AREA.)

E. ENERGY POLICY (I-C):

MOST ENERGY R&D WORK IN CANADA IS CARRIED OUT IN
GOVERNMENT LABORATORIES. THIS REMAINS TRUE DESPITE
A CONCENTRATED EFFORT BY THE GOC TO MOVE MORE R&D
INTO INDUSTRY AND THE UNIVERSITIES. EXCEPT FOR
R&D ACTIVITIES CONDUCTED BY THE PROVINCE OF ALBERTA
AND CERTAIN OIL COMPANIES, IT WOULD PROBABLY BE SAFE
TO ESTIMATE THAT AT LEAST 70 PERCENT OF THE SIGNIF-
ICANT R&D IN ALL FIELDS IS STILL CARRIED OUT IN
FEDERAL GOVERNMENT LABORATORIES, WITH POSSIBLY AN
ADDITIONAL 20 PERCENT ACCOUNTED FOR BY UNIVERSITIES.
THIS LEAVES ONLY A SMALL 10 PERCENT IN INDUSTRY
OTHER THAN OIL COMPANIES.

F. ENERGY POLICY (I-D):

THE INTERAGENCY COMMITTEE ON ENERGY R&D HAS CONSIDERED
A NUMBER OF PROPOSEALS FOR JOINT GOVERNMENT/INDUSTRY
ACTIVITIES. TO THE BEST OF THE EMBASSY'S KNOWLEDGE
NONE OF THESE PROPOSALS CAN BE CONSIDERED TO BE
SUBSTANTIVELY UNDERWAY AT THE PRESENT TIME, AND THE
ONLY ONE IN WHICH THERE HAS BEEN SOME ACTIVITY IS
REPORTED TO BE A FEDERAL/PROVINCIAL/INDUSTRY PROGRAM
IN ALBERTA AIMED AT IN SITU OIL SANDS EXTRACTION
TECHNOLOGY.

G. ENERGY POLICY (I-E):

CANADA'S INDUSTRY IS NOTORIOUSLY BAD WHEN IT COMES

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CIEP-02 COME-00 DODE-00 EB-07 FPC-01 H-02 INR-07

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FM AMEMBASSY OTTAWA

TO SECSTATE WASHDC 8555

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TO SUPPORTING R&D. THE ENERGY FIELD IS NO EXCEPTION. GOVERNMENT COMPLAINTS ABOUT THIS ARE COMMON AND A NUMBER OF REPORTS ARE AVAILABLE IN OEA AND ERDA ON THIS SUBJECT. PROBABLY ONE OF THE BETTER OF THESE REPORTS IS THE SCIENCE COUNCIL'S REPORTS ON THE INDUSTRIAL R&D PROBLEM. THE THREE VOLUME REPORT OF THE SENATE COMMITTEE ON SCIENCE AND TECHNOLOGY IS ALSO USEFUL. BECAUSE OF THE INTEREST IN CANADIAN OIL SANDS, IT IS IMPORTANT TO NOTE THAT AT LEAST TWO MAJOR OIL COMPANIES, IMPERIAL (ESSO) AND GULF, HAVE SIGNIFICANT ENERGY-RELATED R&D FACILITIES IN CANADA. IN BOTH CASES, THE R&D ORGANIZATIONS WORK CLOSELY WITH PARENT FACILITIES IN THE UNITED STATES. BOTH COMPANIES ALSO CONCERN THEMSELVES WITH RESEARCH IN THE WHOLE AREA OF PETRO-CHEMICAL R&D AS WELL AS IN OIL SANDS EXTRACTION TECHNOLOGY. SUNOCO'S OIL SANDS EXTRACTION PLANT AT FORT MCMURRAY REPRESENTS AN ENORMOUS EFFORT IN PLANT DESIGN AND CONSTRUCTION FOR THE ECONOMIC HANDLING OF OIL SANDS AND SUNOCO MUST BE CONSIDERED UNCLASSIFIED

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THE LARGEST SINGLE CONTRIBUTOR TO CANADIAN R&D IN OIL SANDS WORK. THREE PROVINCIAL HYDRO-ELECTRIC COMMISSIONS ALSO DO A SIGNIFICANT AMOUNT OF R&D IN THE ENERGY FIELD. THEY ARE QUEBEC, ONTARIO, AND MANITOBA. QUEBEC AND MANITOBA'S WORK IN HIGH VOLTAGE TRANSMISSION HAS ALREADY BEEN NOTED ABOVE. ONTARIO'S WORK HAS BEEN IN SUPPORT OF ITS EXTENSIVE NUCLEAR GENERATING COMMITMENT. FINALLY, THERE ARE NUMEROUS SMALL CANADIAN SUBSIDIARIES OF AMERICAN

COMPANIES AND SOME LARGER SUBSIDIARIES AS WELL AS INDIGENOUS CANADIAN INDUSTRY WHICH DO SMALL BUT IMPORTANT RESEARCH AND DEVELOPMENT IN SUPPORT OF THE CANADIAN NUCLEAR INDUSTRY. AMONG THESE MUST BE MENTIONED BABCOCK WILCOX, CANADIAN GE, BYRON JACKSON, LUMMUS, WESTINGHOUSE, CANATOM, ETC.

H. ENERGY R&D ACTIVITIES (II-A):

GIVEN CURRENT ECONOMIC CONDITIONS IN CANADA COUPLED WITH GOVERNMENT FINANCIAL POLICY, THE OUTLOOK FOR THE SHORT-TERM FUTURE OF ENERGY R&D IN CANADA IS "BUDGETARILY" BLEAK. ALTHOUGH NOTHING OFFICIAL HAS BEEN RELEASED TO DATE, IT IS UNDERSTOOD FROM NUMEROUS RELIABLE CONTACTS THAT ALL EXISTING GOVERNMENT R&D FACILITIES ARE FACING EXTREMELY TIGHT BUDGETARY CONDITIONS; SO TIGHT ARE THESE CONDITIONS THAT CERTAIN MAJOR FACILITIES ARE SERIOUSLY PREPARING FOR PROGRAM CUTBACKS AND EVEN MAJOR LAYOFFS.

I. ENERGY R&D ACTIVITIES (II-B):

THE FORMAL BUDGET FOR AECL HAS BEEN SEPARATELY TRANSMITTED TO DEPARTMENT/OES. NO OFFICIAL OVERALL BUDGET HAS YET BEEN MADE PUBLIC. EM&R OFFICIALS HAVE ADVISED THE EMBASSY THAT THEY EXPECT TO HAVE MINISTERIAL CLEARANCE ON AN OVERALL BUDGETARY SUMMARY WITHIN A FEW WEEKS. WHEN THIS IS AVAILABLE, COPIES WILL BE TRANSMITTED TO THE DEPARTMENT AND ERDA.

2. EMBASSY IS ATTEMPTING TO OBTAIN COMPLETE LISTING OF CANADIAN PARTICIPATION IN INTERNATIONAL ENERGY R&D
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ACTIVITIES AND WILL TRANSMIT WHEN AVAILABLE.
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